

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-5, 8, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones [2457102] in view of Nobuya [JP11154585].

Regarding claims 1, 2, 5 and 9, Jones discloses a pair of lead terminals (3, 4), each having a lead portion and a broadened tip forming a discharge electrode (1, 2), at least one broadened tip having a projected or patterned surface [Col. 5, Lines 1-5]; sealing spacers (6, 7) fixed on the lead portion of lead terminal (3, 4); a one piece cylindrical housing 5; the discharge electrodes (1, 2) held in the housing 5 facing one another with a predetermined distance therebetween; and wherein the lead terminals (3, 4) with sealing spacers thereon are adjustable within the cylindrical housing 5 before being fixed air tightly thereto such that the distance between the discharge electrodes (1, 2) may be varied and set as desired [Col. 3, Lines 19-45, Figure 1].

Jones discloses the instant claimed invention discussed above except for having the sealing spacer fitted and fixed to an inside wall of said housing; the lead terminals and sealing spacers fixed thereon configured to be inserted from open ends on both sides of said housing into an interior of said housing.

Nobuya discloses sealing spacers¹³ with central fitting through -hole (where leads are inserted, as required by claim 9) fitted and fixed to an inside wall of housing 14 and are inserted from open ends on both sides of housing 14; the lead terminals 11 and sealing spacers 13 fixed thereon are configured to be inserted from open ends on both sides of housing 14 [Abstract].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use lead terminals and sealing spacers as taught by Nobuya to the device of Jones.

The motivation would have been to produce a surge absorber that has an extremely excellent sealing characteristic even when gas of any property is used as filler [Abstract].

In claim 2, the glass bead is welded to establish a seal between the tube 14 [Abstract].

Regarding claims 3, 4, 8, 12, Nobuya discloses repeated backfilling and flushing with dry air and argon which would inherently results in the cleanliness claimed [Paragraphs 8, 9 and 16].

2. Claims 6, 7, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Nobuya as applied to claim 1 above, and further in view of Harada et al. [4317155].

Jones in view Nobuya discloses the instant claimed invention discussed above except for the lead wires being Dumet.

Harada discloses using Dumet as lead wire [Col. 6, Lines 18-21].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use Dumet wire as taught by Harada to the structure of Jones in view of Nobuya.

The motivation would have been for using as a lead wire that penetrates glass [Col. 6, Lines 17-20].

3. Claims 13-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Nobuya as applied to claim 1 above, and further in view of Zuk [4175277].

Regarding claims 13-14, 17 and 18, Jones in view Nobuya discloses the instant claimed invention discussed above except for the projected surface comprises a protrusion having a substantially conical shape extending from the broadened tip in a direction of a longitudinal axis of the lead portion; the protruding portion delimiting a conical cavity in the broadened tip.

Zuk discloses such a pattern in Figure 2.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use a protrusion in a conical shape with a delimiting conical cavity in the broadened tip as taught by Zuk to the structure of Jones in view of Nobuya.

The motivation would have been for the purpose of controlling the gap width [Col. 2, Lines 40-67, Figure 2].

Regarding claims 15 and 19, Jones in view Nobuya discloses the instant claimed invention discussed above except for the projected surface comprise a semi-spherical protrusion extending from the broadened tip.

Zuk discloses the projected surface comprise a semi-spherical protrusion extending from the broadened tip [see Figure 2].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use a semi-spherical protrusion on the projected surface of the electrode as taught by Zuk in view of Jones and Nobuya.

The motivation would have been to better direct voltage surge from one electrode to the other [Col. 2, Lines 41-67].

4. Claims 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Nobuya as applied to claim 1 above, and further in view of Lange et al. [4266260].

Jones in view Nobuya discloses the instant claimed invention discussed above except for the patterned surface comprises grooves forming grid pattern.

Lange discloses patterned surface comprises grooves forming grid pattern [see Figures 1, 2 and 3].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use patterned surfaces as taught by Lange to the structure of Jones in view of Nobuya.

The motivation would have been for the purpose of anchoring or good bonding of electrode activating substance [Col. 3, Lines 33-38].

Response to Argument

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Nobuya discloses sealing spacers¹³ with central fitting through -hole (where leads are inserted, as required by claim 9) fitted and fixed to an inside wall of housing 14 and are inserted

from open ends on both sides of housing 14; the lead terminals 11 and sealing spacers 13 fixed thereon are configured to be inserted from open ends on both sides of housing 14.

Applicant also argues that the reference Jones does not disclose a lead portion with broadened tip having projected surface. The Examiner disagrees.

Jones discloses in Col. 5, Lines 1-5, that lead portions may consist of opposed surfaces of different curvature.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSELITO BAISA whose telephone number is (571)272-7132. The examiner can normally be reached on M-F 5:30 am to 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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